

Smulsky J.J. The Upcoming tasks of Fundamental Science. M.: Sputnik+ Publishing House, 2019. - 134 p. ISBN 978-5-9973-5228-8. (In Russian).
http://sputnikplus.ru/Iosif_Smulskiy_Predstoyashchie_zadachi_fundamentalnoy_nauki.



Figure 1. Book's cover.

In the book, **Comments** of scientists about it precede the Contents

The book is impressive and leaves no one indifferent to it. The chapter "Main provisions of mechanics" gives very important definitions. As a graduate of the Moscow Institute of Physics and Technology, I am struck by the uncompromising approach of the author in the chapters on gravitational and electromagnetic interactions. In the chapter "Ways of development of society" everything is written correctly and very emotionally. I fully support the author. In general, I think that the book will be very useful to the reader. The author clearly deserves high praise as a versatile and deep scholar, a true scientist and interested citizen.

Vladislav G. Polnikov, Dr. Sc. in Physics and Mathematics,
Leading Research Scientist, Institute of Atmospheric Physics
of the Russian Academy of Sciences, Moscow, Russia.

Professor Smulsky advocates the removal of hypotheses from contemporary science and a return to the certainty of mechanics and electrodynamics, viewing this as an essential step if there is to be progress beyond metaphysical speculation. Concrete examples are given on how this can be accomplished and the benefits that would be derived from this approach.

Walter Babin, Independent Researcher
Founder: General Science Journal

The cultural and material development of mankind is based on ideas that arise in the thinking of individuals and penetrate the consciousness of societies. In this historical process, and especially in contemporary circumstances, it is important to hear those who disagree (dissidents),

who are able to see the weaknesses of nowadays and propose new ways. The author of this work points to the need to revise the foundations of the academic science of the world, since he connects with science the understanding of the tasks of mankind and the search for new ways of its development. The author's monologue, addressed to the contemporary reader, contains important fundamental provisions concerning the foundations of mechanics, electrodynamics, and gravitodynamics. At the same time, he is filled with anxiety, and shares his thoughts on our common future, on the role of science and education, on the moral principles of mankind, which is undoubtedly the attractive side of the book.

Vladislav V. Cheshev, Professor of the National
Research Tomsk State University, Russia.

Given the spectrum of the issues addressed and the method of their coverage, the book by the outstanding scientist Joseph Smulsky "The Upcoming Tasks of Fundamental Science" is a unique work. The author begins with a deeply thought-out presentation of the basic principles of mechanics and a non-hypothetical way of acquiring knowledge about the world. The following chapters show the real nature and form of gravitational and electromagnetic interactions and convincingly prove the inconsistency of a number of provisions of contemporary physical theories, in particular the Theory of relativity. At the same time, unresolved problems that need further research are highlighted. The next chapter is devoted to a new vision of climate oscillations which, according to the author, are based on interactions in the Solar system and the resulting changes in solar heat on the Earth. The book ends with chapters on the rational structure and management of society and on the ways of the development of science, containing original and very valuable ideas and theses. I strongly recommend that anyone who wants to find out how the physical world is really organized and how humanity and science should develop get acquainted with this exceptional book.

Borislav Vankov,
Sofia, Bulgaria.

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INTRODUCTION

Contemporary fundamental science is defective and false. Why is it defective and false? Because it has created an unrealistic picture of the micro- and macroworld, it does not pave the way for the further development of society and does not impede negative trends in it. Such a science is not needed by society. Society is aware of this. People refer to the discoveries of sciences as circus tricks, and in searching for a solution to the problems facing it society directs its eyes to journalists and politicians.

Over 50 years of research, I have identified a number of erroneous provisions of fundamental science and found ways to solve them [1] - [12]. Based on them, I will try to present the future tasks of the science.

The basis of fundamental science is mechanics. Mechanics is the science of the movements and interactions of bodies. Until all the bodies involved in it are identified in the phenomenon under consideration, their movements are determined and all their interactions between themselves are revealed, this phenomenon remains incomprehensible to man. Once these conditions are met, the phenomenon becomes fully mastered by man. He can create it in various ways, combine it with other phenomena, and also on its basis create new phenomena that the world has never had.

In contemporary fundamental science, the basic principles of mechanics are distorted. These distortions are one of the reasons for the falsity of fundamental science. On the distorted foundations of mechanics, one cannot understand the shortcomings of contemporary fundamental science. Therefore, in chapter 1, the undistorted foundations of mechanics are considered [3]. In the first section, attention is focused on the surrounding world and its characteristics: the variability and magnitude of objects. The second and third sections discuss the characteristics of motion and interaction.

The structure and functioning of the macrocosm is due to gravitational interactions. Chapter 2 is devoted to them. The main law of these interactions is Newton's law of gravity, and the main task is the problem of the interaction of two bodies. The first and second sections are devoted to these questions.

The 2-body problem was solved analytically exactly and in full, i.e. for all possible cases. In the same way, two more problems were solved for N bodies. In the first problem, around the central body along the circumference N_3 bodies are axisymmetrically located, and in the second one, such circles can be N_2 . In the first task, bodies can simultaneously perform the same movements, for example, along ellipses or hyperbolas. In the second task, the entire structure of bodies rotates as a whole. The third and fourth sections of Chapter 2, respectively, are devoted to these tasks.

In the fifth section of Chapter 2, we consider analytical solutions to the problem of the interaction of bodies located in space, for example, on a sphere. And in the sixth one, the solution to a problem in which all gravitating bodies are pulled together into a central body. The velocities of the bodies, the time of their fusion and the thermal energy of the formed body are determined.

Other problems of the gravitational interaction of N bodies can be solved by numerical methods. To solve them with high accuracy, the Galactica system was developed. The main features of this system and some of the results obtained are presented in section 7, and in the 8th what secrets of the Universe can be discovered with its help.

Above we talked about the translational movement of bodies. In the ninth section, rotational motion is considered. The Earth rotation problem has been solved in millions of years. Her solution made it possible to understand why ice ages have repeatedly occurred in the history of the Earth.

The structure and functioning of the microworld is due to the interaction of charged particles. Chapter 3 is devoted to them. The main law of interaction of two such particles, when they are motionless relative to each other, Coulomb's law, is considered in the first section. Here, a new law is justified and presented for the force of interaction of particles when one of them moves relative to the other. In the second section, the force of action of a magnet on a moving charged particle is given.

These forces depend both on the distance between the interacting particles and on their speed relative to each other. In mechanics, not all rules are applicable to such forces: this is discussed in the third section of Chapter 3. Therefore, many representations of contemporary physics, including the dependence of mass on velocity, turn out to be incorrect.

The new law of forces leads to other particle movements. In the 4th section, the new fundamental trajectories of the interaction of two particles are considered. The five sections of this Chapter present differential equations, an overview of the spectrum of trajectories, trajectories at light speed at the pericenter, closed orbits, trajectories in strong interactions.

The fifth section of Chapter 3 is devoted to explaining the fallacy of the relativistic position on the relationship of mass and energy. In the 6th section, alternative studies in the microworld are reported, and in the 7th section the necessity of switching to a new force and taking into account the effects of N particles is shown.

The eighth section of Chapter 3 is devoted to the Coulomb interaction of N particles. Exact analytical solutions as well as numerical ones are considered. For numerical solutions, a Galactica system module with Coulomb interaction was created.

Section 9 gives the differential equations of motion for the N particle problem with a new equation for force. The prospects of solving these problems are shown. A number of sections of chapter 3 also discuss upcoming problems in the physics of the microworld.

The fourth chapter is devoted to long-period climate oscillations. They are caused by fluctuations in the parameters of the orbital and rotational motion of the Earth. These oscillations occur due to the interaction of the bodies of the Solar system. This is reported in the first section. And in the second one, the change in solar heat along the latitude of the Earth, both in the contemporary epoch and in the coldest and warmest epochs, is considered. For example, in high latitudes, the amount of heat from the cold epoch to the warm epoch changes twice.

The third section of Chapter 4 shows what fluctuations in solar heat, i.e. Earth insolation occur over a million years. The fourth deals with insolation periods of climate change and their gradation, for example, moderately cold, cold and extremely cold. In the 4th section, the insolation periods and paleoclimate are compared for 50 thousand years, and it is shown that these periods completely coincide with the change in paleoclimate. Thus, it has been established that interactions in the Solar system determine the long-period oscillations of the climate on Earth.

The fifth section of Chapter 4 discusses changes in insolation over 20 million years. Its oscillations are not periodic in nature, and such oscillations are usually called random and chaotic. But they are strictly determined, and their aperiodicity is due to the influence of many factors. These results are an example of how phenomena, which we perceive as chaotic, can be uniquely determined at any moment, when knowing them.

The fifth chapter discusses the development of society. The first section shows that the development of society should be determined by the labour of all people to improve the world. Preservation of the surrounding world and its further development is impossible without rational consumption. This is devoted to the second section with a number of sub-sections. The third and fourth sections discuss the development of empty territories on the Earth and the resettlement of man in space. Conscious and reasonable development of mankind is impossible with defective morality, so the fifth section is devoted to the purity of moral principles.

The development of society is due to the activities of each person. And for this, a man must possess all the knowledge that is available in society. Therefore, free education is not a gift of society for an individual; it is a guarantee of the successful development of society. The sixth section discusses the main problems and tasks of education. And in the seventh one, the issues of social management are discussed. There is an opinion that elite must be formed to manage society. It is shown here that such elite is inevitably opposed to society, which leads to a crisis in it. The persons should come to the management of society, after that they have shown them to be consistent in moving at all levels of their activity. The people will treat them with respect: these persons are in power not by kinship, nepotism and blat, but because of their ability to solve various problems throughout their activities.

In each of these sections the tasks of science are formulated. In society, there are many problems that are unknown how to solve. They should be studied by science, investigated various options for their solutions and selected the best.

However, society cannot be entrusted with the solution of these problems to contemporary defective and false science. For science to become the guiding light of society, a substantial renewal is required. The sixth chapter discusses the development of science. First of all, it is necessary to eliminate presumptions from science, i.e. to eliminate hypothesis. This is stated in the first section. In the second section, attention is focused on determining the quality of science: which science is good and which is bad. The contemporary measure of quality in the number of publications in Mainstream journals is absurd. The third section discusses the replenishment of scientific personnel. With the growth of the education of the people, an inexhaustible source of researchers is those of its representatives who, on the basis of their internal motives, began to do research themselves. The fourth section is devoted to improving the scientific press. In its current state, it conserves the errors of Mainstream science and impedes the development of science. Only a transparent and open review of scientific works is a direct way to honestly review them and achieve the reliability of scientific results.

This book is the result of my 30 years of work at the Institute of Earth's Cryosphere, Tyum. SC of SB RAS, Federal Research Center, which in recent years has been carried out under the project IX.135.2.4. The numerical solution of the problems was carried out on supercomputers of the Siberian Supercomputing Centre at the Institute of Computational Mathematics and Mathematical Geophysics, Siberian Branch, Russian Academy of Sciences (Novosibirsk, Russia).

My sons Leonid J. Smulsky and Yaroslav J. Smulsky help me in my work.

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http://sputnikplus.ru/Iosif_Smulskiy_Predstoyashchie_zadachi_fundamentalnoy_nauki.

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